

AMENDMENTS TO THE CLAIMS:

1. (Currently Amended) A heat-resistant, high-toughness aluminum alloy comprising not less than 10 mass % and not more than 16 mass % of silicon, not less than 1 mass % and not more than 3 mass % of iron, not less than 1 mass % and not more than 2 mass % of nickel, not less than 0.5 mass % and not more than 2 mass % in total of one or more selected from the group consisting of titanium, zirconium, chromium and vanadium, not less than 0.6 mass % and not more than 3 mass % of copper, and not less than 0.2 mass % and not more than 2 mass % of magnesium, the balance being essentially aluminum, said alloy being obtained by densifying aluminum alloy powder prepared by gas atomizing by carrying out the steps of subjecting said aluminum alloy powder to cold forming to obtain a preform, heating said preform to a temperature range of not less than 400 degrees C and not more than 510 degrees C and holding said preform in said temperature range for 5 hours or less; and subjecting said preform to hot mastic working to densify said perform, thereby obtaining a dense body as said heat-resistant, high-toughness aluminum alloy, the [[said]] silicon in said aluminum alloy having an average grain diameter of ~~not more than~~ 4 μm or less.

2. (Original) The heat-resistant, high-toughness aluminum alloy of claim 1 which contains titanium by not less than 0.5 mass % and not more than 2 mass %.

3. (Original) The heat-resistant, high-toughness aluminum alloy of claim 1 or 2 having a density of 2.8 Mg/m^3 or less.

4. (Original) An engine part manufactured by subjecting the heat-resistant, high-toughness aluminum alloy of any of claims 1 to 3 to hot plastic working.

5. (Original) The engine part of claim 4 which is a piston.

6. (Withdrawn) A method of manufacturing a heat-resistant, high-toughness aluminum alloy comprising:

preparing aluminum alloy powder by gas atomizing, said aluminum alloy powder comprising not less than 10 mass % and not more than 16 mass % of silicon, not less than 1 mass % and not more than 3 mass % of iron, not less than 1 mass % and not more than 2 mass % of nickel, not less than 0.5 mass % and not more than 2 mass % in total of one or more selected from the group consisting of titanium, zirconium, chromium and vanadium, not less than 0.6 mass % and not more than 3 mass % of copper, and not less than 0.2 mass % and not more than 2 mass % of magnesium, the balance being essentially aluminum;

subjecting said aluminum alloy powder to cold forming to obtain a preform;

heating said preform to a temperature range of not less than 400 degrees C and not more than 510 degrees C and holding said preform in said temperature range for 5 hours or less; and

subjecting said preform to hot plastic working to densify said preform, thereby obtaining a dense body as said heat-resistant, high-toughness aluminum alloy;

the silicon in said aluminum alloy having an average grain diameter of 4 μm or less.

7. (Withdrawn) A method of manufacturing a heat-resistant, high-toughness aluminum alloy comprising:

preparing aluminum alloy powder by gas atomizing, said aluminum alloy powder comprising not less than 10 mass % and not more than 16 mass % of silicon, not less than 1 mass % and not more than 3 mass % of iron, not less than 1 mass % and not more than 2 mass % of nickel, not less than 0.5 mass % and not more than 2 mass % in total of one or more selected from the group consisting of titanium, zirconium, chromium and vanadium, not less than 0.6

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mass % and not more than 3 mass % of copper, and not less than 0.2 mass % and not more than 2 mass % of magnesium, the balance being essentially aluminum;

subjecting said aluminum alloy powder to cold forming to obtain a preform; heating said preform to a temperature range of 400 degrees C to 510 degrees C and holding said preform in said temperature range for 5 hours or less;

subjecting said preform to hot plastic working to densify said preform, thereby obtaining a dense body; and subjecting said dense body to hot plastic working by heating to a temperature not higher than the heating temperature of said preform, thereby manufacturing said aluminum alloy;

the silicon in said aluminum alloy having an average grain diameter of 4 μm or less.

8. (Withdrawn) The method of claim 6 or 7 wherein the step of subjecting said preform to hot plastic working includes extruding with an extrusion ratio of 6 or more.